PROJECT OVERVIEW

Environmental Banc & Exchange, LLC (EBX) proposes to establish the Upper Rappahannock Wetland Mitigation Bank (the Bank) in Orange County, Virginia. The proposed Bank will be located in the piedmont region of the Rappahannock River Watershed near Fredericksburg, Virginia. Figure 1 shows the location of the proposed Site on the Hydrologic Unit Code (HUC) Map of Virginia.

The Bank will be used for compensatory mitigation for unavoidable impacts to waters of the United States, including wetlands, which result from activities authorized under Section 401/404 of the Clean Water Act.

The proposed Site is currently owned by EBX, and the wetland mitigation areas will be subject to a conservation easement. EBX will be responsible for all maintenance and monitoring requirements for a six-year period in accordance with a Mitigation Banking Instrument (MBI). EBX has been successful at involving community-based support for the Site through stakeholder participation and a shared commitment for the success of the mitigation site.

SITE DESCRIPTION

Figure 2 shows the location of the Bank Site on the U.S.G.S. 1:24,000 Unionville Quadrangle Map. The Site is located in Orange County and consists of 55 acres of floodplain transected by drainage swales and tributaries of Mountain Run. The Site's topography is generally level along the Mountain Run floodplain. The mitigation Site will include the floodplain acreage along Mountain Run.

PRE-APPLICATION COORDINATION

EBX proposes to meet with Mitigation Bank Review Team (MBRT) in order to present and discuss the Bank, the design concept, and the specifics of the MBI. EBX has sponsored, designed, constructed, and maintained resource mitigation banks throughout the eastern United States, and is familiar with the technical and regulatory parameters necessary to complete a successful wetland mitigation bank.

On December 4, 2003, representatives of the Virginia Department of Environmental Quality (DEQ) and the US Army Corps of Engineers (COE) visited the Site with representatives of EBX and Timmons Group, EBX's engineering consultant. A summary of the Pre-Application Site Visit is provided in Appendix A.

FEASIBILITY and BASELINE DATA

Prior to preparation of this Prospectus and Concept Plan, the Sponsor conducted a feasibility investigation for the Bank to gather baseline data and to assess the potential of the Site for supporting wetland mitigation.

The results of these investigations, data and subsequent engineering analyses suggest that the creation/restoration of high value wetlands is feasible on the Bank Site. All relevant data,

analyses, modeling and engineering calculations will be provided to the MBRT as part of the MBI approval process.

MITIGATION BANKING INSTRUMENT

The Sponsor will prepare a MBI for approval by the MBRT. The MBI will include a detailed Plan of Development (the Mitigation Plan) for the Site that will include clearly defined goals, objectives and design criteria.

The MBI will be prepared in accordance with the Federal Guidance for the Establishment, Use and Operation of Mitigation Banks (Volume 60, Number 228, Federal Register 11/28/95) and Section 62.1-44.15:5 (B) of the code of Virginia, as well as discussions and agreements established during the mitigation bank review process.

PERMITS

Development of the Bank, including construction methods, will be performed in a manner that will avoid and minimize both temporary and permanent effects on the environment to the greatest extent practicable. Impacts to small areas of existing, low value stream channels and/or wetlands may be required for simple water control structures, hydrologic barriers and/or stream channel restoration activities. Any necessary Clean Water Act (CWA) and/or Virginia Water Protection (VWP) permits will be obtained by the Sponsor as part of the Bank approval process.

MAINTENANCE, MONITORING AND SUCCESS CRITERIA

EBX will provide the MBRT "as-built" drawings of the Site following completion of construction.

Prior to the advance release of credits, EBX will provide appropriate financial assurance, in the form of a performance bond whose amount reflects project costs, in accordance with the terms of the MBI. The bonded amount will be reduced over time as the Mitigation Plan is implemented. In addition, EBX will escrow 5 percent of revenue from sales of mitigation credits to cover monitoring and maintenance costs during the success criteria period. The escrowed amount will be reduced proportionally each year that success criteria are achieved. Finally, EBX will escrow 2 percent of revenue from credit sales to be used as an endowment for long-term maintenance of the Site.

EBX will provide maintenance and monitoring for a six-year period following the completion of construction and planting of the Site. Monitoring will include collecting well data, undertaking plant stem counts in sample plots, and observing soil conditions, plant diversity and other indicators of success relative to the targeted wetland community. Annual monitoring reports will be submitted to the MBRT and will be used to evaluate the Site's performance relative to criteria established by the MBI. Remedial actions to the MBI may be necessary during its operational life. If EBX has followed the approved Mitigation Plan, but performance criteria are not being met, the MBRT will assist in the development of measures to meet performance criteria while holding additional costs to a minimum.

LONG-TERM STEWARDSHIP

A conservation easement will be recorded on the Site prior to the sale of any credits, in and among the appropriate County land records, to assure preservation of these lands in perpetuity. A copy of this easement will be included in the MBI. Following the conclusion of the monitoring

and maintenance period, EBX will transfer the easement and the long-term escrow amount to a non-profit entity engaged in conservation activities.

GEOGRAPHIC SERVICE AREA

The Bank Site is located within the Rappahannock River Watershed in Virginia. The proposed service area will include Hydrologic Unit Code (HUC) 02080103 and a portion of the adjacent HUC-0208104, consistent with current Commonwealth of Virginia statutes and regulations governing mitigation banks, including VWPP regulations (Code of Virginia §§ 33.1-223.2:1 and 9 VAC 25-210-10 et seq.).

CREDIT AVAILABILITY

In accordance with the MBI, 15 percent of the Bank's credits will be released in advance following recordation of a conservation easement for the Site and the receipt by the MBRT of the financial assurances required under the MBI. An additional 35 percent of the Bank's credits will be released following the successful completion of the first growing season. Thereafter, 10 percent of the Bank's Credits will be released each year following a successful growing season.

PROJECT SCHEDULE

EBX will implement the Bank in a single phase. It is anticipated that a draft MBI and Mitigation Plan will be submitted to MBRT in the first quarter of 2004. The current schedule calls for start of construction work in the third quarter 2004, with completion prior to the start of the 2005 growing season.

PROJECT SUMMARY AND CONCEPT PLAN

EBX owns approximately 55 acres adjacent to Mountain Run, a perennial tributary to the Rapidan River in Orange County, Virginia. Approximately 17 acres of riparian buffer have been established along Mountain Run in order to provide riparian mitigation for the Silver Companies' Celebrate Virginia! Project.

The remaining 38 acres are proposed for use as the Upper Rappahannock Wetland Mitigation Bank comprised of wetland restoration/creation, wetland enhancement, wetland and buffer preservation, buffer enhancement, adjacent upland re-forestation and stream and stream buffer preservation.

The overall goals of the Mitigation Bank are to:

1) facilitate conversion of the existing pasture that has been historically modified through intensive agricultural use and drainage manipulation into a diverse riparian habitat comprised of forested wetland and upland habitats,

2) improve surface water quality through drainage manipulation, flow attenuation, and vegetation strata development, and

3) provide permanent, conservation based land use for the property.

The specific goals and objectives of the Mitigation Bank are to enhance floodplain functions such as conveyance and storage, improve water quality, and enhance fish and wildlife habitat by converting and restoring the existing agricultural area to a diverse, native riparian habitat. The target communities for the restoration are primarily comprised of forested wetlands, forested uplands, and transitional zones between these two communities. Forested wetland communities will be characterized as Palustrine Forested, with the water regime classified between temporary and seasonal (PFO1A,C). Wetland hydrology will be established through a combination of grading, modification of soil structure profile to encourage anoxic, reducing conditions, and regulation of surface runoff through the use of micro-topography and water control structures. Vegetation will be established according to a detailed, site specific planting plan.

In order to accomplish these goals, EBX has completed a detailed design survey at ½' contour intervals, collected and analyzed groundwater data within the proposed wetland restoration/creation areas, conducted soils analyses with Dr. Lee Daniels, PhD., prepared water budgets for initial phases of the wetland restoration, and developed preliminary construction plans for wetland construction.

Preliminary acreage and credit calculations for the property are presented in the following Table.

	Acreage	Ratio	Credits
Restoration/Creation	17.25 Ac.	1:1	17.25
Wetland Enhancement	0.82Ac.	5:1	0.16
Wetland Preservation	4.58 Ac.	10:1	0.46
Buffer Preservation	0.60 Ac.	15:1	0.04
Buffer Enhancement	1.88 Ac.	15:1	0.12
Upland Re-Forestation	5.50 Ac.	15:1	0.37
Stream and Stream Buffer Preservation	1,943.74LF/2.16 Ac.	10:1	0.22

Credits and debits for mitigation activity will be released subject to the terms of the MBI, and in accordance with established guidelines, monitoring, and reporting requirements determined by the MBRT.

The release schedule will allow a pre-sale of 15% of the total credits to be generated, and future releases will be dictated by the successful establishment of the target communities.

Successful establishment of palustrine forested wetland hydrology will be based on remote groundwater monitoring well observations that identify a water table within 12 inches of the ground surface for a period of 12.5% of the growing season for Orange County. The growing season for the Site will be determined through the use of soil thermometers.

Success for forested wetland and upland re-forestation woody vegetation stem densities will be targeted at 400 stems per acre. In addition, greater than 50 percent of the dominant vegetation in wetland areas must an indicator status of Facultative (FAC) or wetter. There are no indicator status requirements for the upland re-forestation areas.

It is probable that within the wetland creation/restoration portions of the Site, areas will be present that are somewhat drier or wetter than the specified groundwater success criteria. The groundwater success criteria represent an average of condition across the Site, with the majority of the created/restored acreage being represented by the specified hydrologic result. This

assessment methodology is supported by the fact that the hydrology of the target wetland system is highly variable across a given area, supporting the ecological and functional diversity that makes these systems so valuable.

The purpose of this Concept Plan is to present data for the Site and preliminary design concepts for wetland, forest and stream buffer activities. The information enclosed includes:

1) an existing conditions summary,
2) soils and hydrology analysis and water budget data, and
3) a design narrative and concept.

EXISTING CONDITIONS

The EBX property consists of approximately 55 acres located adjacent to Mountain Run in Orange County. Surrounding land uses are primarily agriculture with scattered rural residential usage. There are many large tracts in the vicinity used for cattle grazing, hay production, and crops as well as other agricultural uses. The northern portion of the Site is bisected by a Williams-Transco gas pipeline easement, which is maintained through regular mowing. Timmons Group performed a wetland delineation of the Site, and a jurisdictional determination has been issued by the U.S. Army Corps of Engineers (See Appendix A). Jurisdictional areas identified on site include channelized waters of the U.S. and forested and emergent wetlands. Suitable "reference" wetlands that match Site conditions for benchmarking hydrologic data will be identified in the MBI.

The prolonged use of the Site for agricultural purposes has manipulated the natural drainage patterns and vegetation that once existed. The overgrazing and heavy traffic of livestock within the floodplain have resulted in degraded wetland conditions including hydrologic manipulation, soil compaction, water quality degradation, and loss of hydrophytic vegetation.

SOILS, HYDROLOGY AND WATER BUDGET DATA

Site investigations conducted by Timmons Group and W. Lee Daniels, PhD, Professor of Soil Science, Virginia Polytechnic Institute and State University have concluded that the soils present on the Site are suitable for wetland creation efforts (See Memorandum Dated 8/18/03 in Appendix B). The loam to silty clay loam soils exhibit faint redox features including Mn and Fe concentrations and redox depletions within the upper 20 inches of the soil profile. These drainage related redox features become more numerous and distinct with depth which is indicative of soils where the water table rises and falls. All of these things point to the fact that variable cut grading conducted via soil profiling and hydrologic data should provide the appropriate soil wetness to support wetland conditions. To further successful wetland creation, after the cut material has been removed the top 12 inches will be deep ripped. Several inches of organics and potentially topsoil will then be added and tilled in to a depth of 6 to 8 inches.

Groundwater data collected by automated Ecotone wells in Wetland Creation Areas further support the proposition that wetland creation in these areas is possible. The data collected demonstrates that the water table is within 20 inches of the soil surface such that with the variable cut grading described above, wetland hydrology should be able to be met in the proposed creation areas.

Water budgets were prepared for Wetland Creation Areas (See Appendix C - Water Budget Data). These water budgets consist of a 2003 Water Budget that incorporates rainfall data for the year to date, a Wet Year Water Budget, a Normal Year Water Budget and a Drought Year Water Budget. These surface water flow budgets further demonstrate that with the appropriate grading and soil amendments, wetland creation is possible in the proposed areas. It is important to note that these water budgets do not include groundwater data input and therefore, it is through overall analysis of soils, well data and the water budgets themselves that it was concluded that these budgets support the wetland creation efforts.

DESIGN NARRATIVE AND CONCEPT PLAN

General Discussion

Based on the Site's historical land use and agricultural impacts and manipulations, landscape position, groundwater hydrology and soils, the Site is well suited for wetland restoration and creation, and general riparian habitat improvement without extensive engineering and earth moving activities. The general design approach is to "undo" drainage manipulations that have occurred on the Site. Through discussions with the prior land owner who has managed the land and participated in farming the property for many years, past manipulations include channelization of streams, concentration and re-direction of surface water flows, and livestock grazing. Grading in strategic locations is necessary in order to restore and create wetland conditions. Proper placement of water control structures will optimize hydrologic conditions necessary for wetland establishment. It is also believed that the ripping/chiseling of the soil and addition of soil amendments will contribute to the viability of created and restored wetlands. Grading will be targeted for areas ideally suited, and not occur in areas requiring excessive cuts. Grading will seek to mimic naturally occurring riparian/floodplain wetlands, and will provide micro-topography for diverse riparian habitat.

Concept Plan

The entire perimeter of the Site has been fenced by EBX to exclude cattle from neighboring farms.

The mitigation activities are comprised of approximately 32.79 acres of which, approximately 3.59 acres is within the existing Transco easement. Site activity will involve wetland restoration and creation of approximately 17.25 acres of forested wetlands, 0.82 acres of wetland enhancement, 4.58 acres of wetland preservation, 0.60 acres of buffer preservation, 1.88 acres of buffer enhancement, 5.5 acres of upland re-forestation, and 1,934.74 linear feet and 2.16 acres of stream and stream buffer preservation. Preliminary construction plans have been included in Appendix D for review and comment. The Concept Plan calls for grading, ripping and amending the soil, construction of contoured, micro-topography in certain locations, and construction of water control structures.

Wetland Restoration and Creation

Areas A & B

The design approach to create forested wetlands in this area is to: (1) perform a minimal amount of grading, (2) add a hydraulic control structure in the form of an outlet at the northeastern corner of the property, (3) disc/deep rip the area perpendicular to the natural slope of the land so that

runoff is more likely to be captured and infiltrated rather than run off to downstream areas and (4) add a 2 to 3 inches layer of compost/organic material to the surface and disc in to a depth of 6 to 8 inches to reach final grade.

The well data for Areas A and B is inconclusive to this point as the wells in this area are newly installed, but indications from this past growing season show that the water table is situated approximately 12 to 24 inches from the existing ground surface during the growing season. The water control structures proposed within Areas A and B will retard surface run-off, thereby raising the seasonal high water table above the levels previously monitored.

Compost/organic material will need to be added to the disced/deep ripped soil surface in order to amend the otherwise clayey soil and promote reducing conditions necessary to meet jurisdictional wetland criteria. The type of organic amendment will be determined upon testing the soil. Topsoil may need to be added in amounts as much as 6 inches in some areas. The grading is in part necessary to permit the addition of these soil amendments without exceeding desired grades. It is also necessary because the current water table being monitored is higher now than what it will be with the addition of woody vegetation.

There are three small drainage swales that drain to Area A and then continue through to the adjacent gas line easement and either off the property to the northeast or to Mountain Run.

Areas A and B can be accessed off of Route 617 through an existing dirt and gravel road serving the Transco compression facility.

Area C

The design approach to create forested wetlands in this area is to: (1) perform a minimal amount of grading, (2) add two hydraulic control structures in the form of outlets at the southwestern and northeastern corners of the area, (3) disc/deep rip the area perpendicular to the natural slope of the land so that runoff is more likely to be captured and infiltrated rather than run off to downstream areas and (4) add a 2 to 3 inches layer of compost/organic material to the surface and disc in to a depth of 6 to 8 inches to reach final grade.

Based on a review of the monitoring well data for Area C (GMW #5 and MW #4 and 6), grading will be required in order to achieve suitable conditions to restore/create wetlands. The well data for Area C indicates that the water table is approximately 12 to 24 inches from the existing ground surface during the growing season. The water control structures proposed within the area will retard surface run-off, thereby raising the seasonal high water table above the levels previously monitored.

Compost/organic material will need to be added to the disced/deep ripped soil surface in order to amend the otherwise clayey soil and promote reducing conditions necessary to meet jurisdictional wetland criteria. The type of organic amendment will be determined upon testing the soil. Topsoil may need to be added in amounts as much as 6 inches in some areas. The grading is in part necessary to permit the addition of these soil amendments without exceeding desired grades. It is also necessary because the current water table being monitored is higher now than what it will be with the addition of woody vegetation.

Area E

Area E is approximately 7.8 acres on the south side of Mountain Run adjacent to Route 666. There are two small, manipulated drainage swales that cut across the western part of the area and there is an intermittent stream that runs along the southwestern boundary. The jurisdictional limits of these features were confirmed by the COE.

The design approach to create forested wetlands in this area is to: (1) perform a minimal amount of grading, (2) construct a hydraulic control structure in the form of an outlet at the eastern corner of the area, (3) disc/deep rip the area to a depth of 12 inches perpendicular to the natural slope of the land so that runoff is more likely to be captured and infiltrated rather than running off to downstream areas and (4) add compost/organic material to the surface and disc in to a depth of 6 to 8 inches to reach final grade.

Based on a review of the monitoring well data for Area E (GMW #1 & 3 and MW #2), grading will be required in order to achieve suitable conditions to restore/create wetlands. The grading concept is to cut higher elevations within the floodplain down closer to the manipulated depressional areas in order to "balance" the topography and recreate poor drainage conditions that existed prior to agricultural manipulation.

The well data for Area E indicates that the water table is approximately 12 to 24 inches from the existing ground surface during the growing season. The water control structures proposed within the area will retard surface run-off, thereby raising the seasonal high water table above the levels previously monitored.

It is important to note that approximately 2-3 inches of compost/organic material will need to be added to the disced/deep ripped soil surface in order to amend the otherwise clayey soil and promote reducing conditions necessary to meet jurisdictional wetland criteria. The type of organic amendment will be determined upon testing the soil. Top soil will need to be added in some areas. The grading is in part necessary to permit the addition of these soil amendments without exceeding desired grades.

Construction access for Area E is available off of Route 666 through the newly installed gate. The acre or so of high ground immediately inside of the gate will serve as a good staging area for the construction efforts.

Overall Site

In the wetland creation/restoration areas of the Site, micro-topography will be used to recreate the natural series of mounds and furrows that are common in forested wetlands. Farm scale equipment will be used to produce a series of figure "8" patterns that will result in a random pattern of interlocking and isolated furrows and mounds. These mounds and furrows contribute to the properties of the forest soil and to the diversity and patterns of plant communities. Micro topography also increases the surface storage of the Site, reducing runoff and erosion, and enhancing infiltration.

Vegetation planted in the created/restored areas will be appropriate for the anticipated hydrologic and soil conditions and will consist of native plant species. The proposed plant species list is as follows: *Fraxinus pennsylvanica* (Green Ash), *Platanus occidentalis* (American Sycamore), *Betula*

nigra (River Birch), *Alnus rugosa* (Speckled Alder), *Quercus palustris* (Pin Oak), *Ulmus americana* (American Elm) and *Acer rubrum* (Red Maple).

Wetland enhancement consists of the manipulation of the physical, chemical, and or biological characteristics of an existing wetland (disturbed or degraded) site to heighten, intensify, rehabilitate, or improve one or more specific function(s), or to change the growth stage or composition of the vegetation present. Enhancement is undertaken for a specified purpose(s) such as water quality improvement, floodwater retention, or wildlife habitat and does not result in a gain in wetland acreage. Specifically, the wetland preservation that is to occur on the site consists of taking the existing manipulated emergent wetlands and enhancing them so that they resemble what they did historically. These efforts also include planting the emergent areas with woody vegetation so as to return the areas to forested wetlands.

Re-forestation on the Site will consist of the planting of 400 stems per acre of native hardwoods in such a manner so as to appear natural and random. The re-forested areas will serve as additional wildlife habitat and buffers to the existing and created wetlands.

Wetland preservation consists of the removal of a threat to, or preventing the decline of wetland conditions in perpetuity by an action in a wetland. Preservation includes purchase of land or easements, repairing water control structures or fences, recording restrictive covenants on land, or structural protection such as repairing a barrier island through the implementation of appropriate legal and physical mechanisms. Specifically, wetland preservation on the site will consist of the preserving in perpetuity of all wetlands and waters of the U.S. and buffers through recordation of a conservation easement.